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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,274	01/14/2004	Patrick Y. Maeda	D/A1535 (1508/3640)	4324

7590 02/08/2006
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EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
2861	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

4A

Office Action Summary	Application No. 10/757,274	Applicant(s) MAEDA, PATRICK Y.	
	Examiner Hai C. Pham	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/14/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Duplicate Claims Objection

1. Claims **10-13** are objected to under 37 CFR 1.75 as being an exact duplicate of claims 4-7. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 3-6, 8-13, 15-19, 21-26 rejected under 35 U.S.C. 102(b) as being anticipated by Fork et al. (U.S. 6,121,983).

Fork et al. discloses xerographic printing system comprising:

- a laser printbar imager assembly (VCSEL printbar 101) (Fig. 2) including a plurality of micro-optic light emitting arrays (115) including a plurality of vertical cavity surface emitting lasers, wherein each vertical cavity surface emitting laser emits a laser beam focused with a micro-optic element (210), a photoreceptor (178, Fig. 1B), which receives said emitted light and holds a charge image, and xerographic developer (not shown), which applies toner to charged or uncharged areas of said photoreceptor produced by exposure to emitted light from the laser printbar imager assembly (col. 1, 14-22) (col. 5, lines 16-33),
- 3 the plurality of vertical cavity surface emitting lasers are arranged in a one-dimensional configuration (linear array of VCSELs),
- 4 the plurality of vertical cavity surface emitting lasers are arranged in a two dimensional configuration (Fig. 1),
- 5 the two dimensional configuration includes rows and columns (Fig. 1),
- 6 the rows and columns are linear along a process direction (Fig. 1),
- 16 the photoreceptor is placed where the beams of at least some of the plurality of vertical cavity surface emitting lasers overlap (col. 9, lines 55-60),
- 21 the number of beams per column in the array along a process direction is 3 or greater (Fig. 1),

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- 22 the photoreceptor is placed at or near a position where 50% intensity spot diameters or spot sizes are equal to the raster spacing on the photoreceptor (the laser light sources image a uniform series of spots onto the moving photoreceptor (col. 1, lines 5-10),
- 23 the photoreceptor is placed at or near a position where greater than 10% but less than 50% intensity spot diameters or spot sizes are equal to the raster spacing on the photoreceptor (the laser light sources image a uniform series of spots onto the moving photoreceptor (col. 1, lines 5-10),
- 24 the photoreceptor is placed at or near a position where greater than 50% but less than 90% intensity spot diameters or spot sizes are equal to the raster spacing on the photoreceptor (the laser light sources image a uniform series of spots onto the moving photoreceptor (col. 1, lines 5-10),
- 25 wherein there is substantially no overlap of the micro-optic focusing elements (Fig. 1),
- 26 comprising a raster output scanner (ROS print engine) (col. 1, lines 23-35).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fork et al. in view of Ohkubo (U.S. 6,538,682).

Fork et al. discloses all the basic limitations of the claimed invention except for the micro-optic element having a diameter up to about 2.5 to 4.0 times larger than Full Width at Half Maximum of the emitted laser beam at the micro-optic element, and the rows and columns of the light emitting elements being staggered along a process direction.

Ohkubo discloses an exposure device comprising an organic light emitting elements configured as a two-dimensional array with the rows and columns staggered along the process direction, and corresponding two-dimensional arrangement of microlens whose diameter is at least 3 times larger than the array pitch of the electric field light emitting elements (Figs. 1-3).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the device of Fork et al. with the microlens array having a large diameter as well as the light emitting elements arranged in a staggered manner as taught by Ohkubo. The motivation for doing so would have been to reduce optical crosstalk as suggested by Ohkubo at col. 2, lines 6-9.

6. Claims 14 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fork et al. in view of Kwak (Pub. No. U.S. 2004/0120376).

Fork et al. discloses all the basic limitations of the claimed invention except for the lasers within a particular array being switched on at different times, and the xerographic printing system being a laser multifunction system.

However, it is old and well known in the art the xerographic printing system can be used as a laser multifunction system as evidenced by Kwak, which discloses a vertical cavity surface emitting laser for use in a printing system or a laser scanner (paragraph [0005]). Kwak further teaches the light emitting source assembly being configured so as each VCSEL has an independent electrode such that one VCSEL is driven independently from an adjacent VCSEL (paragraph [0013]).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide independent electrode to the VCSEL assembly of Fork et al. as taught by Kwak. The motivation for doing so would have been to allow the laser driver to easily address each light emitting element.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

February 4, 2006